

CLAIMS

1. Gear selector device for a motor vehicle transmission comprising one transmission shaft (1), two gear wheels (2, 3; 18,19) rotatably mounted thereon and, unrotatably and axially movably supported on said transmission shaft (1) between said gear wheels, one sliding sleeve (4, 20) which by axial displacement can be optionally coupled with one of said gear wheels, wherein the axial displacement results by a shifting device (45, 46) actuatable by pressure medium which can be controlled via a pressure medium hole (6) extending in the interior of said transmission shaft (1), characterized in that upon said transmission shaft (1) are supported several systems offset against each other in axial direction and consisting each of one sliding sleeve (4, 20) and at least one gear wheel (2, 3; 18, 19), it being possible, independently of each other, to supply with pressure medium said shifting devices (45, 46) of said sliding sleeves (4, 20) by a common pressure medium hole (6) in said transmission shaft (1).

2. Gear selector device according to claim 1, characterized in that centrally in said transmission shaft (1) is axially movably supported one pressure medium pipe (7) which has on the periphery a clearance (8) extending over an axial section and connected via a radial hole (9) with a pressure medium hole (6) in the interior of said pressure medium pipe (7) and that said pressure medium pipe (7) is axially movable in said transmission shaft (1) in a manner such that said clearance (8) is optionally movable in the area of one of several radial holes (10, 26) in said transmission shaft (1) which leads to said shifting device (45, 46) on said sliding sleeve (4, 20).

3. Gear selector device according to claim 2, characterized in that said clearance (8) is formed by an axial section of said pressure medium pipe (7) having reduced outer diameter.

4. Gear selector device according to claim 2, characterized in that the two axially opposite ends of said clearance (8) in said pressure medium pipe (7) are sealed by annular seals (16) opposite the inner wall of said transmission shaft (1).

5. Gear selector device according to Claim 2, characterized in that said pressure medium pipe (7) is provided outside said transmission shaft (1) with one flange (17) which has on the front side at least one acting face for pressurization by the pressure medium for axial displacement of said pressure medium pipe (7) in said transmission shaft (1).

6. Gear selector device according to Claim 2, characterized in that between the outer side of said pressure medium pipe (7) and the inner side of said transmission shaft (1) lies one star-shaped distributor (31) having a central pipe which on its outer side has radially outwardly pointing and axially extending ribs (32) between which are formed several axially extending chambers (33) separated from each other and distributed over the periphery.

7. Gear selector device according to Claim 6, characterized in that each chamber (33) has one supply hole (35) leading to the pipe interior of said star-shaped distributor (31).

8. Gear selector device according to Claim 7, characterized in that said supply holes (35) of said individual chambers (33) are axially and/or radially offset against each other.

9. Gear selector device according to Claim 6, characterized in that said pressure medium supply holes (10, 26) in said transmission shaft (1) are disposed offset in peripheral direction so that each pressure medium supply hole (10, 26) can be loaded with pressure medium only by one specific chamber (33) of said star-shaped distributor (31).

10. Gear selector device according to at least one of the preceding claims, characterized in that said sliding sleeve (4, 20) is coupled with a shifting device (45, 46) having two pressure spaces (38, 39) which, for the axially opposite displacement of said sliding sleeve (4, 20), can be loaded with a control pressure medium by at least one pressure medium hole (10) in said transmission shaft (1).

11. Gear selector device according to at least one of the preceding claims, characterized in that said gear wheels (2, 3) have rib faces radially pointing toward said transmission shaft (1) and upon which the outer friction cones (34, 41) of said sliding sleeve (4) can be applied.